

Removal Action Work Plan (draft)

Phase I

29 Riverside Ave Site.
Task Order # 87
Newark, New Jersey

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Introduction 1.0

On November the 10th, 2009 AECOM acting as the prime contractor for the United States Environmental Protection Agency (USEPA) Region II was assigned Task Order # 87, or 29 Riverside Avenue which is located in Newark, New Jersey. The site is situated in an industrial zone along the Passaic River. Two abandoned buildings that formerly served as a Pittsburgh Paints and glass manufacturer are positioned on approximately a 2.5 acre parcel. Both buildings are unsecured and have been vacant for many years. There is a cosmetics manufacturer located approximately two hundred feet adjacent to the two structures as well as numerous other manufacturing plants in the by near vicinity.

The building closest to the river which will be referred to in this work plan as building A was found to have a four inch diameter terracotta pipe buried underground extending outward from the river bank. The pipe was capped immediately after it was discovered discharging an oil slick into the Passaic River. The initial emergency response effort was performed by the New Jersey State's Department of Environmental Conservation. The department's contractor placed boom along the river bank to absorb and contain the remainder of contaminants from the discharge. A test trench was excavated in an effort to locate the source of the contamination but it was not determined. Two underground sumps located on the ground floor inside building A were suspect to be a possible source.

On November the 11th 2009 the EPA's on-scene-coordinator and AECOM response manager met on site. During the initial site walk it was noticed that the terracotta pipe led to a second building which will be referred to in this work plan as building B. The pipe was traced back to a storm water drainage system in building B which was located along the side of a basement wall. Two 5200 gallon above ground storage tanks were discovered inside the basement of building B. The tanks are interconnected with each other through PVC pipe. One tank was equipped with a two inch diameter by twenty foot length of flexible hose connected to the valve/fitting. The discharge end of the hose was found placed inside a clean-out connection of the storm water drainage system. The tank valve was discovered open at the time and discharging liquids into the storm sewer pipe leading to the Passaic River. The ERRS contractor retrieved the necessary tools (wrenches) and personnel protective equipment (PPE) in order to shut off the valve in a safe manner. It was estimated that 1/3 of the liquids remain inside each of the tanks.

Upon further investigation of Building A there were a series of above ground storage tanks and vats discovered on the second and third floors of the structure. The vats and tanks appeared to be empty with some residual contamination remaining. Further assessment and inventory of these tanks will be addressed in the initial phase of this work plan. There has been no determination of hazardous waste nor were there any samples taken from inside these vessels at this point. Other aspects of the work plan will include small container/drum collection and field characterization as well as the removal of ten underground storage tanks(USTs) containing volatile organic compounds (VOCs) There are still areas inside both buildings that have not been completely examined and may propose additional environmental or hazardous issues that may need to be addressed.

1.1

General

This work plan will serve as a compendium to AECOM's Site Health and Safety Plan and meet with all State / Federal (OSHA) guidelines and criteria necessary to conduct hazardous waste site operations in a safe manner. The guidelines and criteria for site tasks will be determined by the AECOM safety professional and implemented on site by the site safety officer. A safety meeting will be held prior to daily site operations to discuss or address any hazards associated with on-site operations. As site conditions change or unexpected challenges are met this plan will be amended accordingly in compliance with AECOM's safety procedures. A task hazard analysis form will be drawn up for any operations that may be performed outside the scope of work listed in this plan. The THA form will be written by the SSO and reviewed by the AECOM safety professional. It will then be reviewed with all employees involved in the operations. This will include any deviation from outside the list of detailed tasks outlined below. The levels of protection (PPE) required to perform each task will be stated separately in the Health and Safety Plan. (HASP). Levels of personnel protective equipment (PPE) may be upgraded as conditions warrant so.

1.2

Mobilization

Once all of the required plans and documents are reviewed and finalized the AECOM technical team will make the necessary provisions to mobilize on site. The personnel required to perform on-site operations will include but not be limited to three clean-up technicians, one chemist, one project supervisor and one field clerk cost accountant. The field equipment required will include two-4 WD pick up trucks, one passenger vehicle, three lap top computers and various digital photo equipment. Other field equipment may be required and listed in detail according to each task in this plan.

1.3

Schedule

The table listed below is an estimated schedule to reflect the required time for completion of each of the stated tasks. This schedule may change due to unforeseen circumstances or cancellations due to unsuitable weather conditions. This schedule reflects Phase I of the project work plan tasks.

Table 1

Task	Date Begin	Date Completed	Number of ERRS personnel	Equipment needed to perform	Subcontractors
Mobilize to site	1-11-10	1-11-10	6	Two 4-wd trucks 1-car	N/A
Build stairs to basement	1-12-10	1-13-10	6	Two 4-wd trucks 1-car	N/A
Pump out basement tanks	1-14-10	1-14-10	6	Two 4-wd pick up trucks 1-car	Vacuum Tanker Truck with Operator

Task	Date Begin	Date Completed	Number of ERRS personnel	Equipment required	Sub-contractor
Decommission basement tanks	1-15-10	1-16-10	6	Two 4-wd pick up trucks	N/A
Assess and inventory tanks/vats inside of building A	1-16-10	1-26-10	6	Two 4-wd pick up trucks 1-car	N/A
Collect and inventory small containers and drums	1-16-10	1-28-10	6	Two 4-wd pick up trucks 1-passenger vehicle.	N/A
Demobilize from site	1-29-10	1-29-10	6	Two 4-wd pick up trucks 1 passenger vehicle.	

2.0

Scope of Work

The scope of work listed under task order # 87 is to provide the labor, equipment and materials necessary to perform the following tasks:

- Sampling and waste characterization.
- Assessment and inventory of storage tanks inside building(s).
- Removal, transportation and disposal of RCRA and non-RCRA hazardous waste.
- Decontamination of hazardous materials from surfaces.
- Transfer liquids from two AST(s) located in basement of building B.
- Decommission of above ground storage tanks (ASTs) located in basement area of building B.

- Excavate and remove liquids from inside underground storage tanks (USTs) outside of buildings .(Phase II)
- Decommission UST's.
- Obtain post excavation soil samples.
- Backfill excavation pending post-ex sample data.
- Provide daily cost documentation 1900-55s

2.1

Sampling and Waste Characterization

A separate document or a Site Sampling Plan (SSP) will be followed regarding the protocol and QA/QC procedures required under the ERRS contract. Samples taken from the site will be used exclusively for waste characterization and disposal purposes. A field chemist will be present on site to perform sampling and field characterization activities for any contents found inside of drums, small containers, above ground storage tanks (ASTs), underground storage tanks (USTs), soil samples and asbestos contaminated material (ACM). The level of protection required for sampling activities will be stated so inside the Health and Safety Plan. A state certified laboratory will be obtained to analyze the necessary parameters for effective treatment and disposal of hazardous waste. The laboratory will be required to provide all the necessary glassware/jars used to collect the samples. Chains of Custody and holding times will be followed as prescribed in the site sampling plan (SSP). Samples may be shipped either via courier service or Fed-Ex in compliance with all the state department of transportation (DOT) and Federal regulations.

2.2

Assessment of tanks inside building A

Located on the second and third floor of building A are approximately 100 or more steel above ground storage tanks (AST's) and vats that were used during the manufacturing process. These steel vessels vary in size with a majority of them being approximately twelve feet H by eight feet W. The tanks are suspected to be completely empty however some residual product remains. Most of the tanks appear to be sealed completely with a 2 inch boiler plug screwed in front of each tank. Others are attached to a 2 and 3 inch pipe manifold system with working valves. A closer assessment of these tanks will be necessary to confirm their status. No access openings were noticed on the

vessels during the initial site investigation. Confined space entry is not expected to be performed during this assessment. If necessary cold cutting methods utilizing a hand drill and sawzall will be used to cut open and view inside each tank through the top portions of the tanks. No hot work cutting methods will be performed during the assessment of the tanks. Scaffolding and ladders may be required to reach elevated points of each vessel. Safety regarding elevated work surfaces used during this task will be addressed in the Site Health and Safety Plan (HASP). The level of personnel protection required for this task will be address inside of the Health and Safety Plan. (HASP).

Inventory and assessment of the AST's will be done in writing during field operations and then transferred to an excel spread sheet in a computer data base. Below is an example of how each tank/vessel may be inventoried and assessed according to the table. Other information may be necessary and will be taken if required. The tanks will be numbered in sequential order and numbers will be painted on the outside surface of each tank for identification. Once all of the tanks have been assessed and information is entered into the data-base the spread sheet will be given to the EPA's on-scene coordinator (OSC) for review. The OSC will then decide if any further action is required.

Table 2

Tank Number	Tank Size (dimensions)	Shape	Capacity	Location	Contents	Comments
1	12ftL X 8ftD	Cylindrical	4500 U.S. gallons	Third Floor	Empty	1 inch brown residue on bottom.

2.3

Removal of Liquids from Basement Tanks.

Two tanks located inside the basement of building B were sampled by AECOM during the initial response. The sample data revealed that the aqueous liquids inside the tanks are hazardous for Selenium (concentration 2.6mg/l) and Benzene (3000 ug/l). Bromoform was also detected in the sample analysis with levels of (82,000 ug/l) The action levels and required Personnel Protective Equipment (PPE) will be addressed in the Site Health and Safety Plan(HASP). A Photo Ionization Detector (PID) will be used for air monitoring during tank handling operations or transferring of liquids to determine the action levels.

The tanks are located toward the South end of the basement. A set of stairs leading down to the basement area are in disrepair and unsafe for use, therefore it will be necessary to construct a temporary staircase prior to transferring liquids. A fifteen foot extension ladder may also be used to access the basement area however the temporary stair case is the preferred remedy. Elevated work surface safety will be addressed inside the Health and Safety Plan as well as hand powered tools necessary for constructing the temporary staircase. A 15 KW generator will be required for power during construction.

The generator will be kept away from the basement area and outdoors while operating. Extension cords will be used from the generator to actuate power hand tools. Adequate lighting will also be required inside the basement during the operations. Flashlights may be used as a preliminary light source however portable light plants will be placed inside the basement and powered by the outdoor generator during liquid transfer operations. The steel tanks are both equipped with working gate valves and 2 inch pipe fittings attached at each end. These connections will need to be retro-fitted to match the transfer lines on the tanker truck which are cam-lock. The project manager will coordinate with the AECOM T&D person to insure the connections/fittings on the tanks are a compatible type and size to hook-up to the tankers transfer lines.

Icing or freezing of liquids may also be a concern. If freezing of the product has occurred it will be necessary to postpone the liquid transfer operations until temperatures rise well above freezing. This will be checked at least two full working days prior to the liquid transferring operations to avoid any unnecessary charges from the T&D vendor. The transportation and disposal coordinator will be notified immediately in order to re-schedule with the vendor. The tanker may be equipped with only 100 ft of transfer line. A measurement from the tanks to the outside of the building should be taken a few days prior to transferring operations to insure the tanker truck is equipped with the proper amount of hose. Once all of the tanks contents have been emptied the gate valves on each tank will be shut closed and transfer lines will be cleared free of any product before removing them from the basement area. A uniform hazardous waste manifest along with other shipping documents will be signed by the transporter and the EPA's on-scene-coordinator. A carbon copy of the manifest and or shippers documents will be given to the OSC and a copy will be made for AECOM's record.

2.4

Decommission and De-contamination of Tanks

The subsequent action to follow the transferring of liquids from the tanks will be de-commission and decontamination. The diameter of each tank is 6 ft. and the length is 25 ft. A 24 inch flange is bolted to the outside front of each tank. The flange will be un-bolted and removed after the liquids have all been transferred. The atmosphere inside the tank will be tested through the flange opening. An LEL meter (lower explosive limit) O2 meter for oxygen and the PID (Photo-ionization-detector) for toxicity will be used for testing. The readings will be taken standing outside the tank with a long probe. Although no confined space entry or hot work cutting are anticipated the Oxygen and LEL meter readings will be done as a precaution. If the toxicity levels are exceeded PPE upgrades will be made in accordance with the task hazard analysis (THA) and HASP. When all safety pre-cautions have been implemented a 6 ft circular opening will be cut in the front and back side of each tank utilizing an electric sawzall and power drill. Approximately one or two 1/2 inch pilot holes will be drilled along the circumference of each tank as a guide for the sawzall. Several cuts may need to be made in order to create smaller manageable pieces of the tanks front wall. After completion the opening of each tank will be the entire circumference around the front and back face of the tank. The outside

atmosphere will be tested constantly during these operations using the PID. The atmosphere inside the tanks will also be tested in the event they may need to be decontaminated. Upgrades to PPE will be made in accordance with the action levels stated in the HASP. Once each end of the tanks has been cut completely open and they are no longer considered a confined space the atmosphere will be tested and assessed if decontamination is necessary. Any residual product remaining inside the tanks will be absorbed with speedy dry and shoveled into 55 gallon 1A2 DOT shippable open-top steel drums. Oily residues on tank surfaces will be wiped clean with oil absorbent pads. Solid waste materials collected during the cleaning of tanks will be disposed of in accordance to all state and federal guidelines. The open end vessels will remain in place inside the basement and will be deemed un-usable or decommissioned.

2.5

Removal of Underground Storage Tanks (USTs)

Phase II

It has been determined that ten UST's are buried on site which was associated with the paint and glass manufacturing process. Sample data has been provided by the city of Newark's contractor to the EPA. The sample results of the tanks contents appear to contain a mixture of volatile organic compounds (VOCs). The estimated quantity inside of each tank is approximately 10,000 gallons. After additional information is collected this portion of the work-plan will be updated with a complete removal action plan for the UST's along with a complete time line /schedule. This will include but not be limited to pumping and transferring liquids, excavation and removal of ten UST's, post excavation sampling and backfilling operations.

2.6

Soil Sampling

Phase II

Post excavation samples will be collected after all of the tank contents have been transferred and they have been removed from the excavation. The samples will be shipped to a state certified laboratory for confirmation. Turn around times for the samples will be decided by the EPA's on-scene coordinator. Additional soil excavation may be required if soil contamination is found and does not meet the state clean up criteria. No person will enter a confined space or excavation during tank handling activities. Excavations will be benched and or shored prior to any entrance. A competent person will be assigned to determine stable soil conditions and safe benching /shoring methods. The Site Health and Safety plan will be updated by AECOM's health and Safety professional prior to any of the above mentioned excavation operations

2.7

Backfill Operations (Phase II)

Backfilling will take place once all confirmation samples have been deemed clean in accordance with New Jersey State clean up criteria. A grid or map of the sample points or locations will be made prior to backfilling to reference each sample taken. A suitable or certified clean backfill material will then be procured and transported to site. Estimations for amounts of material necessary to backfill are unknown at this time but will be updated to this plan at a later date. It is anticipated that crusher run will be used for backfilling purposes.

2.8

Removal of Drums and Small containers (Phase II)

Some drums and small containers were noticed during the initial site visit. Most of them appeared to be empty drum carcasses however some may contain hazardous materials. No estimations or known quantities were made at that time. Once on-site operations begin all drum and small containers will be collected from both buildings on site and staged in a secured area for field screening and waste characterization. After the waste streams are identified a bulking or consolidation plan for compatible materials will be initiated. A composite sample of each waste stream will be taken and sent to a state certified lab for analysis of hazardous waste characteristics. Once quantities and waste are both identified a request for proposal (RFP) of the waste will be sent to qualified vendors for bid. Both hazardous and non-hazardous waste materials will be packaged in their proper DOT shipping container for future transportation and disposal. Any of the empty drum carcasses or containers that meet the definition of RCRA empty will be crushed and disposed of accordingly. The Site Health and Safety plan will address levels of protection necessary for drum and small container waste characterization. Additional information for the drums and small containers will be obtained once site operations commence.

2.9

Demobilization

Upon completion of the scope of work ordered under Task Order # 87 AECOM will demobilize its field personnel, field equipment and any rental equipment from site. This may include any sub-contractor services that met the minimal requirements to perform on site clean up activities.